



ELECTRONICS, INC.
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NTE5561, NTE5594 thru NTE5596 Silicon Controlled Rectifier (SCR), 850A

Ratings: (Maximum Values at $T_J = +125^\circ\text{C}$ unless otherwise specified)

Repetitive Peak Voltage, V_{DRM}	
NTE5561	1600V
NTE5594	200V
NTE5595	600V
NTE5596	1200V
Repetitive Peak Reverse Voltage, V_{RRM}	
NTE5561	1600V
NTE5594	200V
NTE5595	600V
NTE5596	1200V
Non-Repetitive Peak Off-State Voltage, V_{DSM}	
NTE5561	1600V
NTE5594	200V
NTE5595	600V
NTE5596	1200V
Non-Repetitive Peak Reverse Blocking Voltage, V_{RSM}	
NTE5561	1700V
NTE5594	300V
NTE5595	700V
NTE5596	1200V
Average On-State Current (Half Sine Wave), $I_{T(AV)}$	
+55°C Heatsink Temperature, Double Side Cooled	820A
+85°C Heatsink Temperature, Single Side Cooled	320A
RMS On-State Current (+25°C Heatsink Temperature, Double Side Cooled), $I_{T(RMS)}$	1640A
Continuous On-State Current (+25°C Heatsink Temperature, Double Side Cooled), I_T	1400A
Peak One Cycle Surge (Non-Repetitive) On-State Current (10ms Duration), I_{TSM}	
60% V_{RRM} re-applied	11500A
$V_R \leq 10V$	12650A
Maximum Permissible Surge Energy ($V_R \leq 10V$), I^2t	
10ms Duration	8000000A ² s
3ms Duration	5900000A ² s
Peak Forward Gate Current (Anode Positive with respect to Cathode), I_{FGM}	20A
Peak Forward Gate Voltage (Anode Positive with respect to Cathode), V_{FGM}	22V
Peak Reverse Gate Voltage, V_{RGM}	5V
Average Gate Power, P_G	4W
Peak Gate Power (100µs Pulse Width), P_{GM}	120W
Rate of Rise of Off-State Voltage (To 80% V_{DRM} Gate Open-Circuit), dv/dt	200V/µs
Rate of Rise of Off-State Current, di/dt	
(Gate Drive 20V, 20Ω with $t_r \leq 1\mu\text{s}$, Anode Voltage $\leq 80\% V_{DRM}$)	
Repetitive	500A/µs
Non-Repetitive	1000A/µs
Operating Temperature Range, T_{hs}	-40° to +125°C
Storage Temperature Range, T_{hs}	-40° to +150°C

Characteristics: (Maximum values at $T_J = +125^\circ\text{C}$ unless otherwise specified)

Peak On-State Voltage ($I_{TM} = 1700\text{A}$), V_{TM}	1.75V
Forward Conduction Threshold Voltage, V_O	1.08V
Forward Conduction Slope Resistance, r	0.395Ω
Repetitive Peak Off-State Current (At V_{DRM}), I_{DRM}	60mA
Repetitive Peak Reverse Current (At V_{RRM}), I_{RRM}	60mA
Maximum Gate Current Required to Fire All Devices ($T_J = +25^\circ\text{C}$, $V_A = 6\text{V}$, $I_A = 2\text{A}$), I_{GT} ..	300mA
Maximum Gate Voltage Required to Fire All Devices ($T_J = +25^\circ\text{C}$, $V_A = 6\text{V}$, $I_A = 2\text{A}$), V_{GT}	3V
Maximum Holding Current ($T_J = +25^\circ\text{C}$, $V_A = 6\text{V}$, $I_A = 2\text{A}$), I_H	1A
Maximum Gate Voltage which will Not Trigger Any Device, V_{GD}	0.25V
Thermal Resistance, Junction-to-Heatsink for a Device with a Max. Forward Voltage Drop, R_{thJ-HS}	
Double Side Cooled	0.044°C/W
Single Side Cooled	0.088°C/W

